



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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May 26, 2000

TO: Internal File

THRU: Robert Davidson, Team Lead *RAD w/h w*

FROM: Wayne H. Western, Senior Reclamation Specialist *w/h w*

RE: Midterm Review, Lodestar Energy, Inc., Horizon Mine, ACT/007/020-MT99-3

## TECHNICAL ANALYSIS:

## OPERATION PLAN

## SPOIL AND WASTE MATERIALS

Regulatory Reference: 30 CFR Sec. 701.5, 784.19, 784.25, 817.71, 817.72, 817.73, 817.74, 817.81, 817.83, 817.84, 817.87, 817.89; R645-100-200, -301-210, -301-211, -301-212, -301-412, -301-512, -301-513, -301-514, -301-521, -301-526, -301-528, -301-535, -301-536, -301-542, -301-553, -301-745, -301-746, -301-747.

### Analysis:

#### Coal Mine Waste

The Permittee has committed not to bring any coal mine waste to the surface. If the Permittee finds that mining conditions are different than anticipated and that coal mine waste must be brought to the surface they will get Division approval before bringing the coal mine waste to the surface. The Permittee is also authorized to ship coal mine waste to the Sunnyside Cogeneration facility.

#### Excess Spoil

The Permittee states, on pages 3-10 and 3-11 that there will not be any excess spoil associated with this permit. However, on page 3-10, he states that sediment pond, ditch, and other clean out material will be placed in two areas as shown on the map or the company may elect to take the material to ECDC. The Permittee also stated that they will take samples of the clean out material as dictated by the intended use and approved by the Division.

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TECHNICAL MEMO

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**Findings:**

The Permittee met the minimum requirements of this section.

**MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS**

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

**Analysis:**

**Mining Facilities Maps**

The Permittee, on pages 3-4 and 3-5, corrected the deficiencies by correcting the legends. Such corrections were made on the coal storage area on map, Plate 3-1. Also, such corrections were made on the snow storage area map, Plate 3-1.

**Findings:**

The Permittee met the minimum requirements of this section.

**RECLAMATION PLAN**

**APPROXIMATE ORIGINAL CONTOUR RESTORATION**

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -301-270, -301-271, -301-412, -301-413, -301-512, -301-531, -301-533, -301-553, -301-536, -301-542, -301-731, -301-732, -301-733, -301-764.

**Analysis:**

The Permittee states in Section 3.5.4 of the submittal the following about restoring the site to the approximate original contours:

Approximate Original Contour. The area of the Horizon surface facilities was disturbed by previous mining activities. No pre-mining topographic maps of the area are known to exist. The reclamation plan has been designed to backfill and grade the site to achieve the assumed approximate original contours (i.e., to blend into the surrounding topography) and eliminate highwalls associated with the Horizon Mine.

Highwalls From Previously Mined Areas. Several highwalls existed within or adjacent to the disturbed area that are the result of previous mining operations. The reclamation plan has been

TECHNICAL MEMO

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designed to eliminate those highwalls within the disturbed area. The anticipated post-mining contours indicate that the available materials are sufficient to eliminate all existing highwalls within the disturbed-area boundary during reclamation. However, if field conditions indicate that all available materials are not sufficient to eliminate the existing highwalls without exceeding the performance criteria outlined in the preceding paragraph, small sections of highwall may be retained. Division approval will be obtained before any highwalls are retained.

The cut and fill quantities do not balance. The Permittee estimates that 11,695 cubic yards of cut material are available and 15,935 cubic yards of fill material are needed. Approximately 4,240 cubic yards of material are needed to make up the deficiency. The 4,240 cubic yards deficiency is 36% of the required fill material. Generally the cut and fill quantities are within 10% of each other. If the cut and fill quantities do not balance then the Permittee will need to develop a reclamation plan that address the cut and fill balances.

The Permittee has not identified other near by sources of fill material in the area. See R645-301-553.610. That information is needed to insure that the highwall can be eliminated.

Before the Division can approve the plan to restore the site to the approximate original, contours the Permittee must identify all highwalls in the disturbed area. The highwalls must be labeled pre-law and post-law. The highwalls must be shown on the operational and reclamation contour maps and cross section.

**Findings:**

The information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must be provided the following in accordance with:

**R645-301-553.610 and R634-301-553.650**, The Permittee must show the location of all reasonable available spoil (fill) material that could be used to reclaim the highwalls. That information is needed before the Division can make a finding about Highwall retention.

**R645-301-542.200 and R645-301-521.190**, The Permittee show the location of all pre-law and post-law highwalls within the disturbed area. The highwalls must be identified on the contour maps and cross sections.

**R645-301-544.200**, The Permittee must give the Division a detailed plan for highwall elimination. The Divisions consider the proposed plan inadequate because the cut and fill quantities do not match.

**R645-301-553.610**, The Permittee must identify all readily available sources of fill material in the area that could be used for highwall elimination.

TECHNICAL MEMO

## BACKFILLING AND GRADING

Regulatory Reference: 30 CFR Sec. 785.15, 817.102, 817.107; R645-301-234, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

### Analysis:

The Permittee states that all reclaimed slopes will have a safety factor of 1.9 under unsaturated conditions and 1.4 under saturated conditions. However, the Permittee does not state where the slope stability analysis can be found. The Permittee must either state the reference or include the slope stability analysis in the MRP.

The Permittee committed to cover all coal seams with a minimum of 4 feet of suitable material. The Division needs the Permittee to show the location of the coal seams on the reclamation cross sections.

The Permittee states that no soil or acid or toxic forming materials are on the site. When the Division reviewed the MRP we found that refuse from pre-law mining was buried on the site. That material has high boron levels. If the material should be uncovered during reclamation then the Permittee would have to rebury that material. The Permittee must identify the location of the coal mine waste materials buried on the site in the reclamation cross sections.

The Permittee does not propose to leave any cut and fill terraces. Nor do they propose to leave any settled and revegetated fills.

The highwall issues are cover in the AOC section of this TA.

### Findings:

The information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must provided the following in accordance with:

**R645-301-553.130 and R645-301-121.200,** The Permittee must include the slope stability analysis in the MRP. The analysis may be placed in an appendix. If the Permittee included the slope stability analysis in the MRP then the location of the analysis must be cited in the text.

**R645-301-553.300 and R645-301-542,** The Permittee will address how the coal seams will be covered during final reclamation. Also, the Permittee will show the location of the coal seams on the cross sections.

**R645-301-542,** The Permittee will show the location of the coal mine waste on the final reclamation contours.